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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jan Lichtermann

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7590

02/01/2005

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EXAMINER

KIM, CHONG R

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,838

Applicant(s)

LICHTERMANN ET AL.

Examiner

Charles Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on October 8, 2004 has been entered and made of record.
2. In view of applicant's newly submitted drawings, the objection to the drawings are withdrawn.
3. In view of applicant's amendment, the claim objections are withdrawn.
4. In view of applicant's amendment, the 112 second paragraph rejections are withdrawn.
5. Applicant's arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Applicants argue (pages 8-9) that their claimed invention (claim 1) differs from the prior art because Dydyk "does not disclose determining for each reference fingerprint in comparison with the obtained fingerprint image a similarity degree. Instead, the patent to Dydyk discloses that a computer 28 compares the pattern of the fingerprint with representative pattern, each of which represents a particular fingerprint classification category." The Examiner disagrees. As noted in the previous office action (page 5), the "detailed comparison process" (col. 16, line 9) was interpreted as the comparing step. Dydyk explains this "detailed comparison process" includes the step of determining a similarity between the obtained fingerprint and each fingerprint image in the category of fingerprint images most likely to match (col. 16, lines 13-33).

Applicants further argue (page 9) that "Dydyk also does not disclose determining of the corresponding similarity degree by a comparison of properties of a corresponding area...in the

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patent to Dydyk the comparison takes place in the frequency domain (after the transformation), Instead of the spatial domain as defined in claim 1.” The Examiner responds by pointing out that claim 1 does not appear to recite that the comparison process takes place in the spatial domain.

Applicants further argue (page 9) that “the prior art references do not suggest to use the reference points in an algorithm to sort the reference fingerprints in the databank.” The Examiner disagrees. As noted in the previous office action (pages 5-6), the combination of Dydyk and Ort disclose the step of sorting the reference fingerprints in the databank based on a similarity degree. On page 8 of the previous office action, Driscoll discloses a similarity degree that is based on reference points. Therefore, the Examiner notes that the combination of Dydyk, Ort, and Driscoll (as noted on page 8 of the previous office action) disclose the use of reference points to sort the reference fingerprints in the databank.

Claim Objections

6. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 13 (first instance) has been renumbered as 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Dydyk et al., U.S. Patent No. 5,953,442 (“Dydyk”), Ort et al., U.S. Patent No. 5,926,555 (“Ort”), and Driscoll, Jr. et al., U.S. Patent No. 5,067,162 (“Driscoll”).

Referring to claim 1, Dydyk discloses a method of identification of a fingerprint, comprising:

- a. obtaining for a fingerprint a fingerprint image (col. 5, lines 45-55),
- b. storing reference fingerprints in a databank (col. 6, lines 1-17),
- c. comparing the obtained fingerprint image with the reference fingerprints for identification (col. 16, lines 7-33. Note that the “more detailed comparison process” in line 9 is interpreted as being analogous to the comparing step),
- d. before the identification, determining for each reference fingerprint in comparison with the obtained fingerprint image a similarity degree (col. 12, line 43-col. 13, line 55 and col. 16, lines 7-12).

Dydyk does not explicitly disclose the step of sorting the reference fingerprints in the databank in accordance with the similarity degree and performing the identification of the

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obtained fingerprint beginning with the reference fingerprint which leads to a greatest similarity degree.

Ort discloses a fingerprint identification method that comprises the step of sorting reference fingerprints in a database in accordance with a similarity degree, and performing the identification of the fingerprint beginning with the reference fingerprint which leads to a greatest similarity [col. 3, line 65-col. 4, line 18. Note that the “ordered list sorting” in line 11 is interpreted as a sorting process that results in the ordering of the reference fingerprints that begins with the fingerprint having the greatest similarity degree. The reasoning behind this interpretation is because Ort is concerned with performing the search comparison and matching in the shortest amount of time (col. 5, lines 54-58). For instance, if the ordering of the reference fingerprints began with the fingerprint having the least similarity degree, the matching process would take a greater amount of time].

Dydyk and Ort are combinable because they are both concerned with fingerprint identification methods. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the identification step of Dydyk (step c) so that it performs the identification of the obtained fingerprint beginning with the reference fingerprint which leads to a greatest similarity degree, as taught by Ort. The suggestion/motivation for doing so would have been to reduce the workload that is passed forward to the identification step, thereby improving the speed of the identification process (Ort, col. 8, lines 49-51 and col. 9, lines 9-15). Therefore, it would have been obvious to combine Dydyk with Ort.

Dydyk further discloses the step of determining the corresponding similarity degree by a comparison of properties of a corresponding area in the obtained fingerprint with each property

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of the corresponding area of the reference fingerprint (col. 9, line 50-col. 10, line 45 and col. 12, lines 42-48. Dydyk explains that the fingerprint image is divided into a plurality of regions, and the information contained in each region is quantified to generate a region value. Dydyk further explains that the region values of the obtained fingerprint are compared to the region values of the reference fingerprints. Note that the “region values” are interpreted as the properties of the corresponding areas in the obtained fingerprint and the reference fingerprint).

Dydyk and Ort do not explicitly disclose that the “corresponding areas” are around a reference point of the obtained fingerprint. However, this feature was exceedingly well known in the art. For example, Driscoll discloses the step of determining a similarity degree by comparison of properties of a corresponding area around a reference point of an obtained fingerprint with each property of a corresponding area of a reference fingerprint (col. 3, lines 42-53 and col. 15, line 55-col. 17, line 23. Note that the reference point can comprise ridge terminations and bifurcations, ridge islands, cores, deltas, etc.).

Dydyk, Ort, and Driscoll are combinable because they are all concerned with fingerprint identification methods. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the “corresponding areas” of Dydyk and Ort, so that they are around a reference point, as taught by Driscoll. The suggestion/motivation for doing so would have been to enhance the speed and accuracy of the fingerprint identification process (Driscoll. col. 6, lines 27-50). Therefore, it would have been obvious to combine Dydyk and Ort with Driscoll to obtain the invention as specified in claim 1.

Referring to claim 2, Dydyk further discloses the step of performing the identification in accordance with a details comparison (col. 16, lines 7-33).

Referring to claim 3 as best understood, Dydyk and Ort do not explicitly disclose that the identification process is performed in accordance with a correlation of the obtained fingerprint with the corresponding reference fingerprint. However, Official notice is taken that correlation was an exceedingly well known type of matching technique used for fingerprint identification. Therefore, it would have been obvious to modify the identification step of Dydyk, Ort, and Driscoll so that it is performed in accordance with a correlation. The suggestion/motivation for doing so would have been to perform the identification of the fingerprint in an accurate and efficient manner.

Referring to claim 5, Driscoll further discloses the step of using core and delta points as reference points (col. 3, lines 42-53).

Referring to claim 11, Driscoll further discloses the step of selecting regions on an obtained fingerprint so that the regions have only papillar lines (figure 9).

Referring to claim 12, see the rejection of at least claim 1 above. Dydyk further discloses an indicator for exhibiting a result of the identification (col. 16, lines 7-33. Note that an indicator is included in the automatic matching apparatus in order to identify the fingerprint pattern).

Allowable Subject Matter

8. Claims 6-10, 13 are allowed.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 703-306-4038. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ck

January 27, 2005


Jon Chang
Primary Examiner